



# Exploring Endothelial Function Risk Factors and Optic Disc Edema Changes During Strict 6° Head-Down Tilt Bed Rest

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Photo credit: DLR

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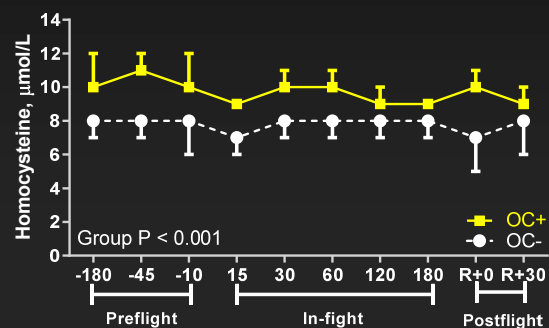
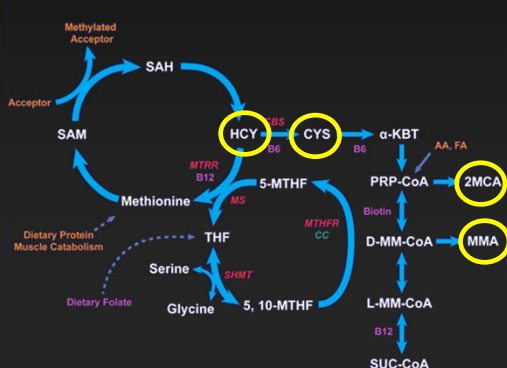


## Background



SSM(28)

- Astronauts with ocular changes after flight had higher concentrations of serum 1-carbon biochemistry metabolites than astronauts without ocular changes. Before flight.



(Zwart et al., J Nutr 2012)

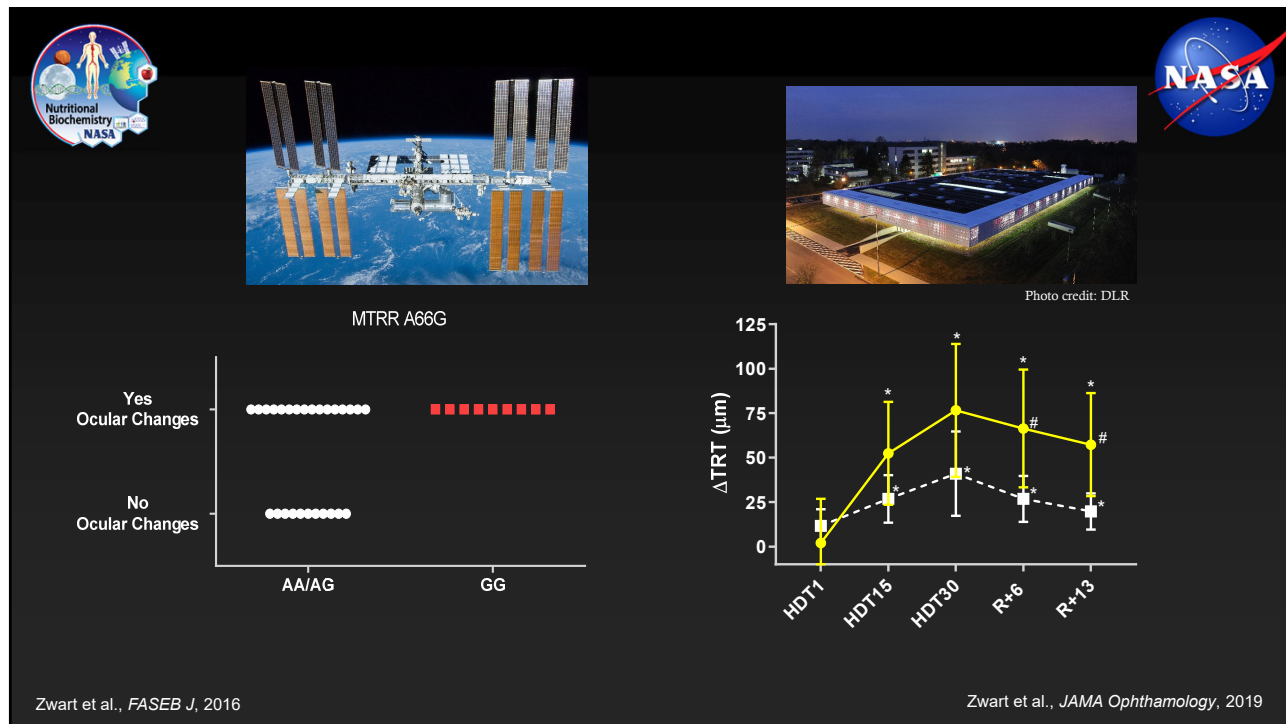
2

## Slide 2

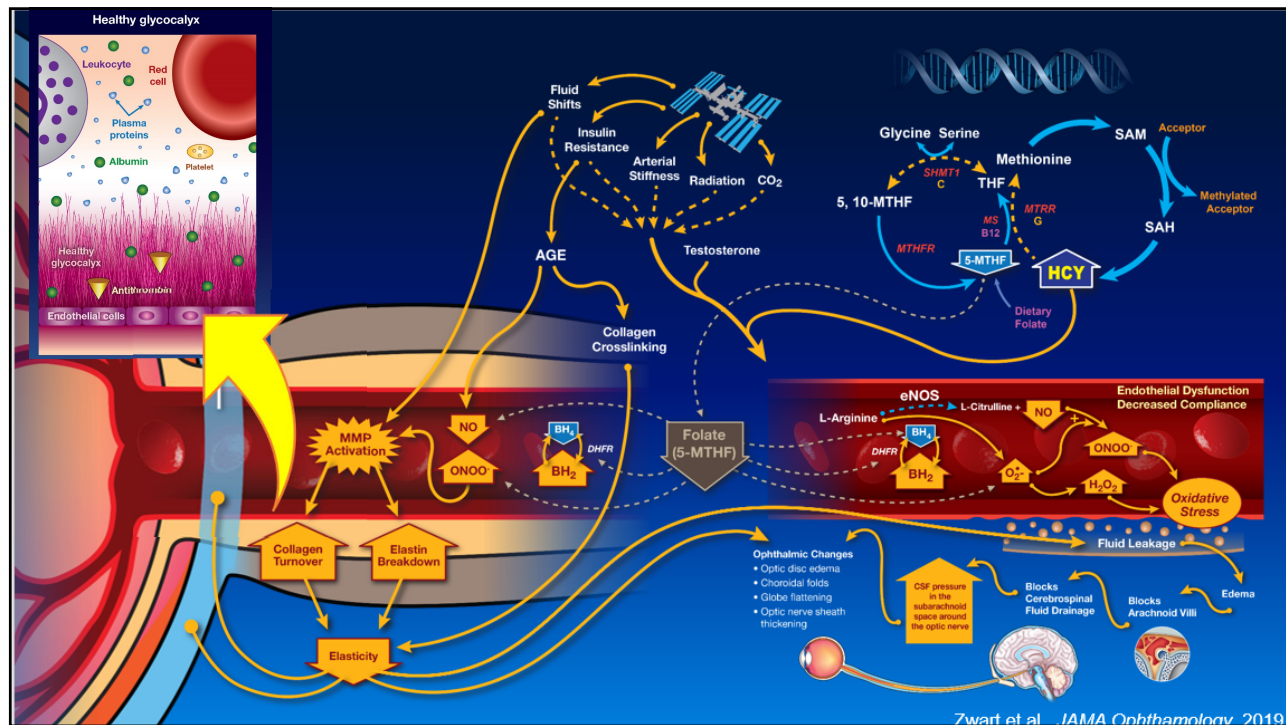
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**SSM(28** I would make the meatball a little bigger. Right now, the lab logo is a little bigger than meatball...which I'm sure is against some rule

Smith, Scott M. (JSC-SK311), 1/12/2022



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## Hypothesis and Specific Aims



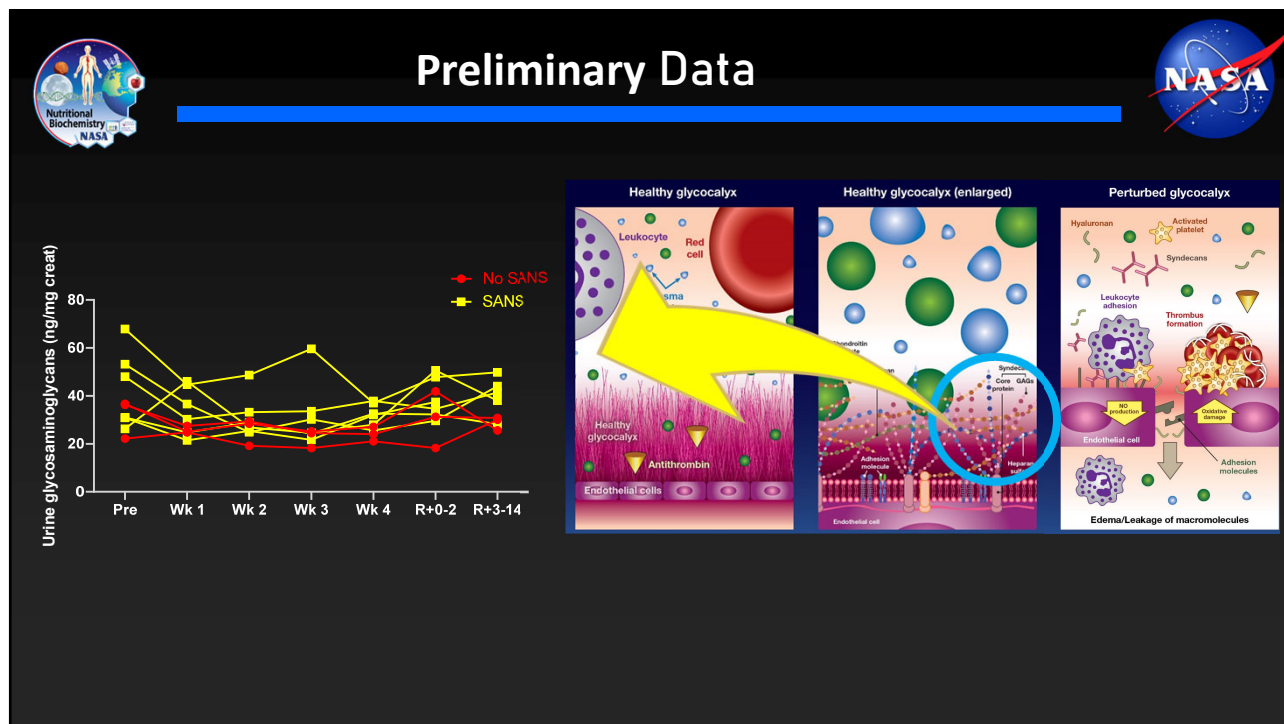
- Given the findings from the VaPER bed rest study relating genetics and changes in optic disc edema in bed rest, the same relationships/genetic variants will be studied in available AGBRESA samples.
- Urine samples from prior bed rest studies (VaPER and AGBRESA) will be assessed for markers of glycocalyx degradation

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- 22 blood samples from AGBRESA received and being processed for genetic analysis
- Single void urine samples available from 13 females (8 from AGBRESA and 5 from VaPER) being analyzed for markers of glycocalyx degradation:
  - Glycosaminoglycans
  - Hyaluronic acid
  - Albumin

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## Acknowledgements

- We thank the DLR team and ROI teams for their hard work to help coordinate and implement this study.
- We thank HRP for funding the study.







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